United States Patent

[11] 3,575,174

[72] Inventor Ernest Mogor
North Brunswick, N.J.

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[73] Assignee Personal Products Company

[54] SANITARY NAPKIN
6 Claims, 20 Drawing Figs.

[52] U.S. Cl. 128/290
[51] Int. Cl. A61f 13/16
[50] Field of Search 128/290

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Primary Examiner—Charles F. Rosenbaum
Attorneys—W. Frederick Mayer, Jr. and Robert L. Minier

ABSTRACT: A sanitary napkin which is formed in either a curved or flat configuration, tapered toward its rearward end, and is maintained in its shaped configuration by deep embossed channels impressed through the cover and into the core of the napkin to compression bond the two components together. The deep embossed channels are positioned near the lateral and end edges on the top surface of the napkin and at the rearward end on the bottom surface of the napkin.

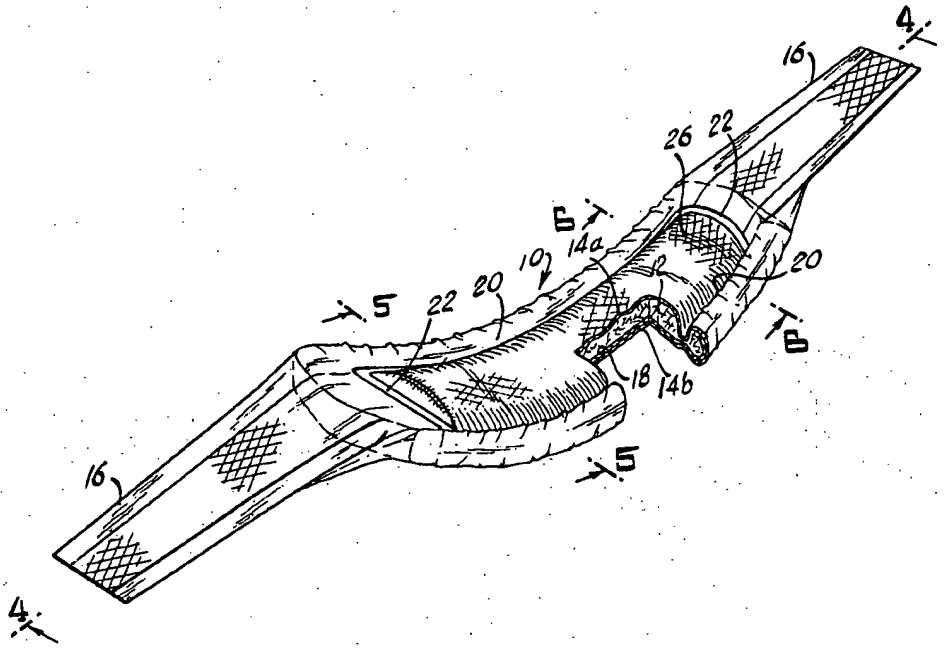

Fig. 1.

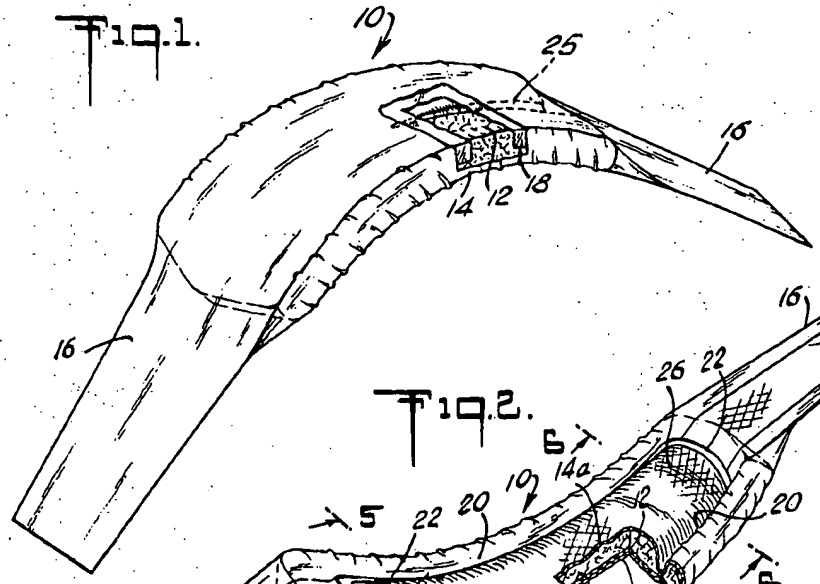

Fig. 2.

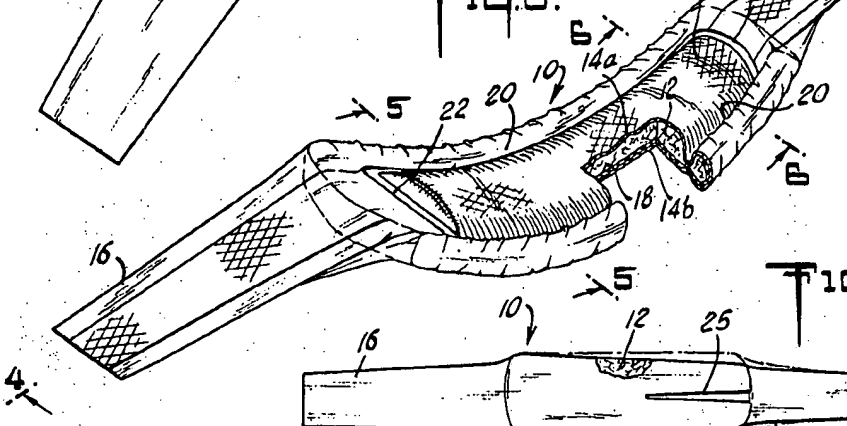

Fig. 3.

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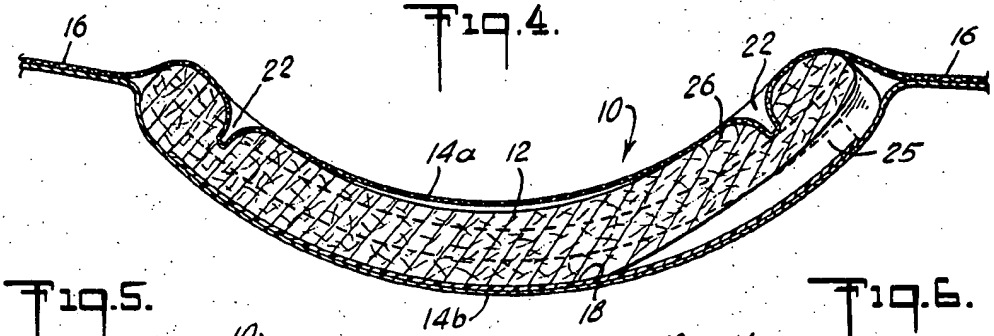
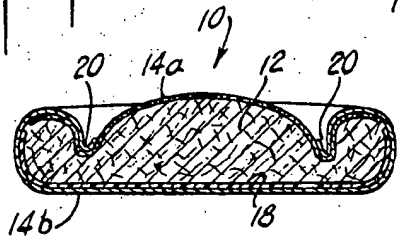


Fig. 5.



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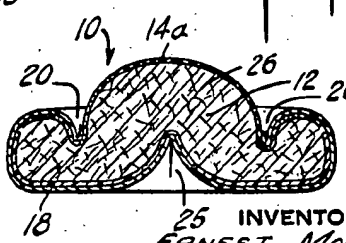
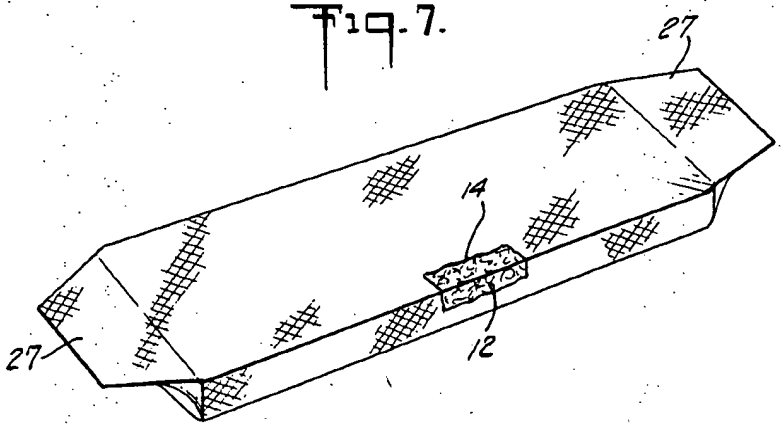


INVENTOR
ERNEST MOGOR
BY
W. Frederick Thayer, Jr.
ATTORNEY

Fig. 7.



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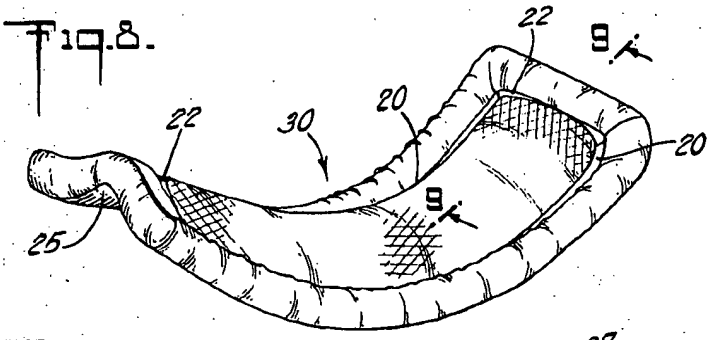

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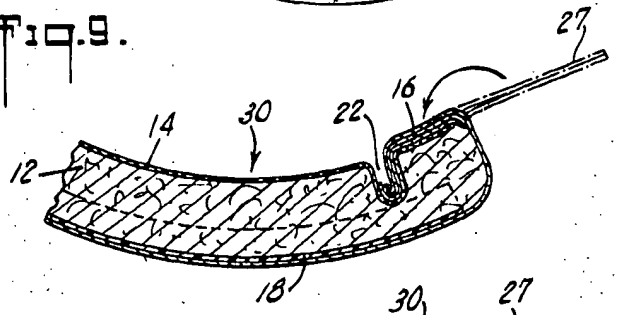
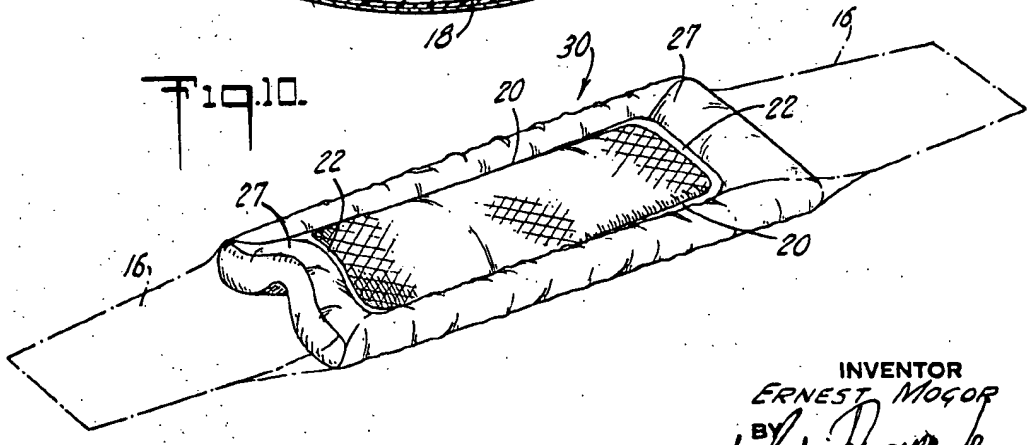
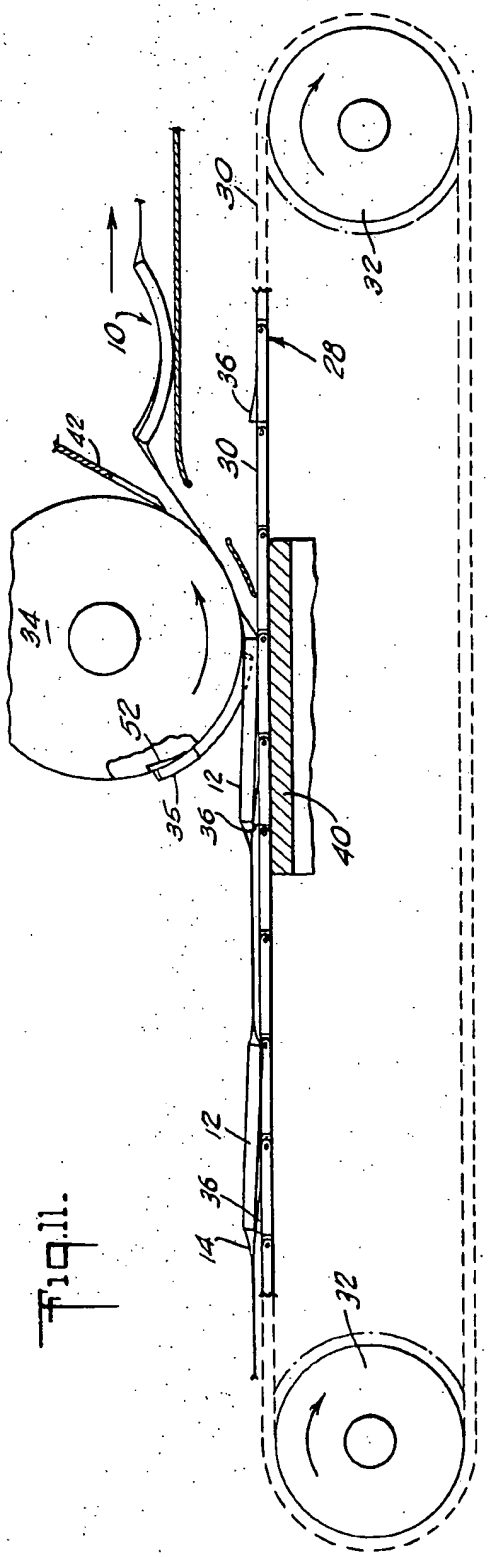


Fig. 10.



INVENTOR
ERNEST MOGOR
BY
Frederick Shaffer, Jr.
ATTORNEY



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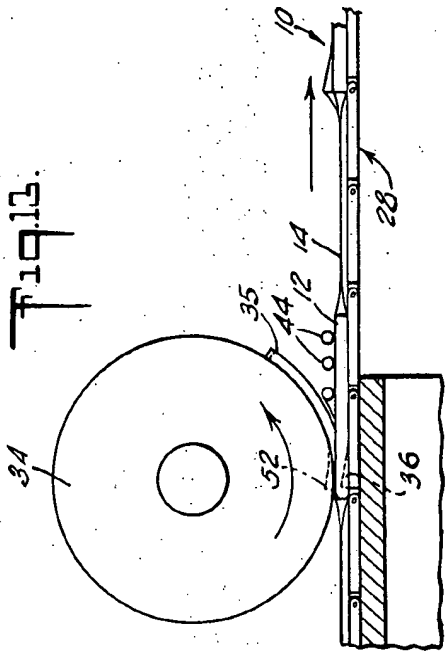

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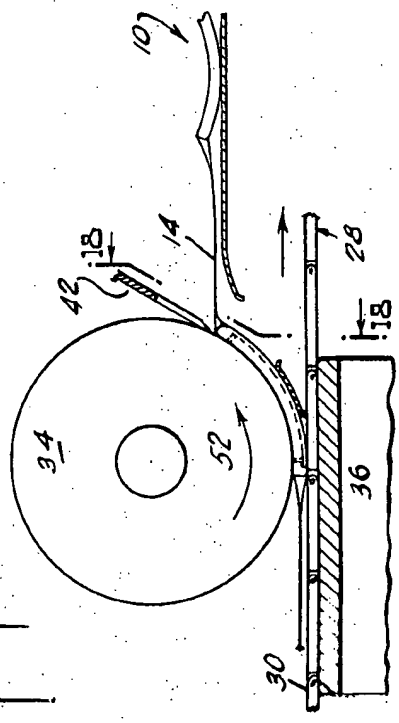
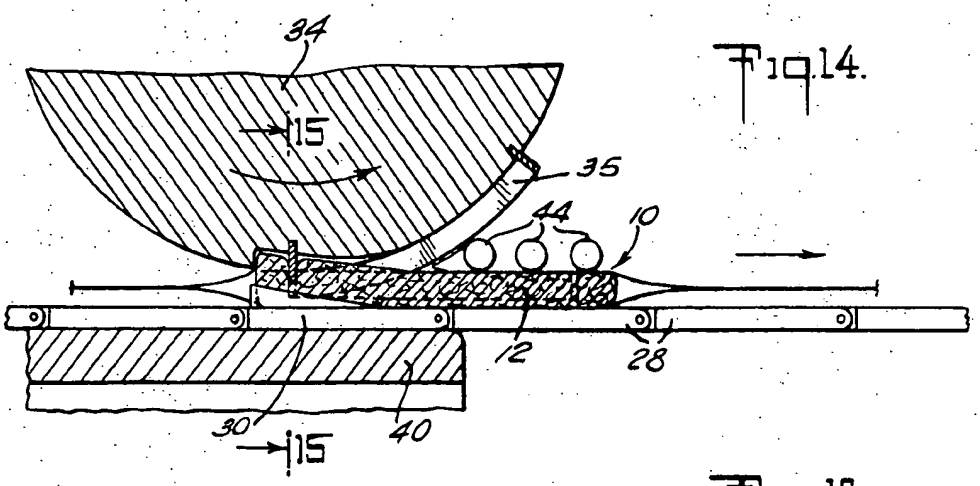


Fig. 12.

INVENTOR
ERNEST MAGOR
BY Frederick Thayer, Jr.
ATTORNEY

Fig. 14.



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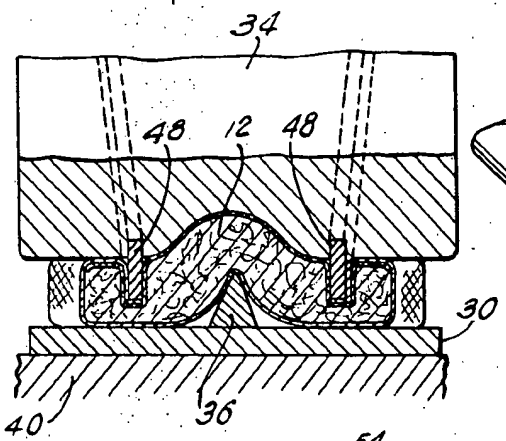

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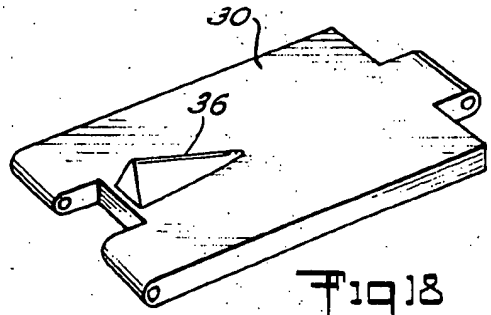
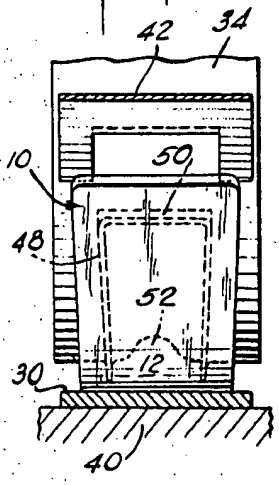


Fig. 18



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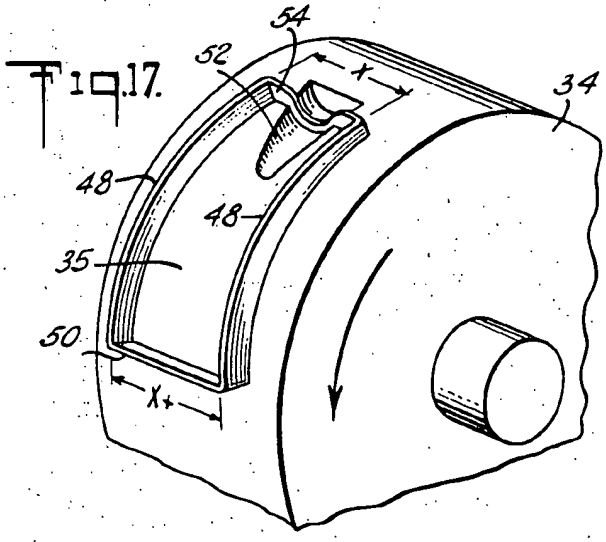
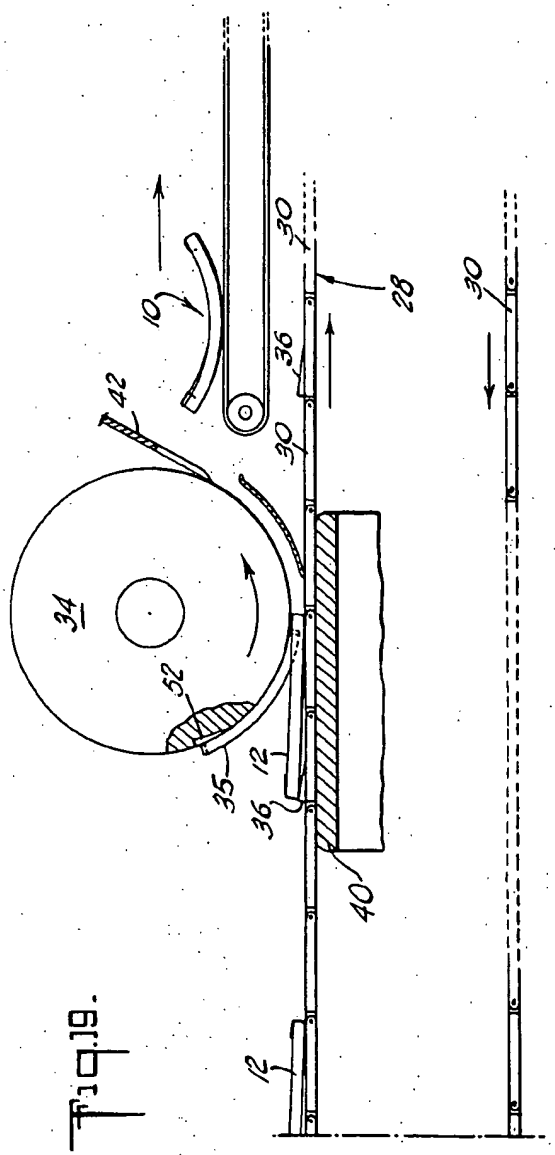


INVENTOR
ERNEST MOGOR
BY Frederick Brayer, Jr.
ATTORNEY



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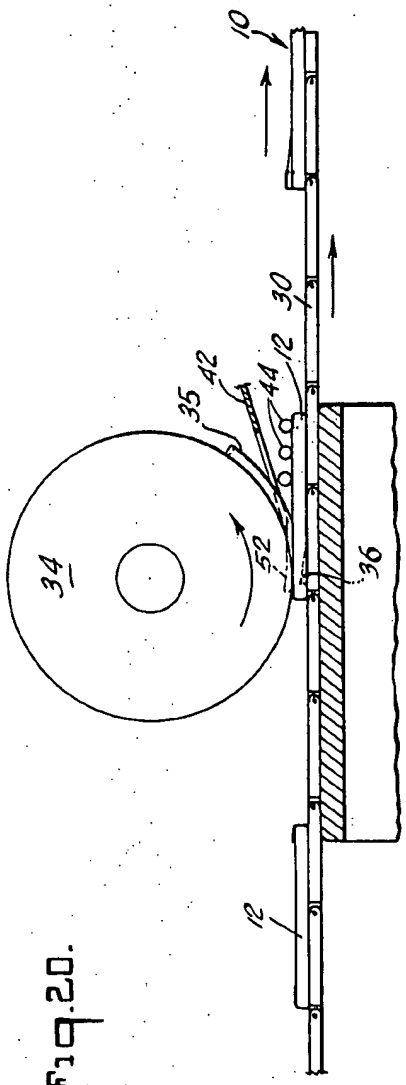

Fig. 20.

INVENTOR
ERNEST MOGOR
BY
ATTORNEY

SANITARY NAPKIN

BACKGROUND OF THE INVENTION

This invention relates to sanitary napkins and more particularly to an improved tapered sanitary napkin having structural and form stability whether formed into a curved, tapered configuration or a flat, tapered configuration.

Sanitary napkins have been made in a variety of shapes and have incorporated numerous structural features in attempts to provide an article of such nature which fulfills its absorbing function and which is also comfortable and nonchaffing when worn. In some instances the provision of a more effective absorbing medium has been emphasized whereas in others a greater consideration has been given to providing a sanitary napkin which fits comfortably.

Sanitary napkins commonly used are characterized by having the shape of a rectangular parallelepipedon and include an enclosing cover of fluid permeable material which is elongated at both ends of the napkin to provide attachment tabs intended to be secured to sanitary belt clasps at the front and rear of the wearer. In use, suspensory tension forces bend the ends of the sanitary napkin upwardly in a longitudinal direction while compression forces, particularly in the region rearward of the vulva between the buttocks, bend the sides of the napkins downwardly in a transverse direction so that the napkin will conform to the contours of the female pubic area. Such external forces causing the pad to bend and bunch up to fit the anatomy of the pubic area, produce irregular surfaces in the napkin, particularly in those portions of the sanitary napkin adapted to be placed adjacent the wearer. The irregularities generally take the form of folds, triangles, valleys, ridges or flutes and are most severe just forward of the downwardly folded posterior section preventing intimate contact between the napkin and the wearer in the area of the vulva where a snug fit is most requisite. In addition, tension on the attachment tabs necessary to maintain the folded shapes produces discomfort and irritation.

To alleviate this problem, at least to some extent, sanitary napkins have been made with rearward portions of reduced size to more nearly conform them with the configuration of the anatomy in the area of the buttocks. Such a reduction in size has been accomplished by reducing the amount of absorbent material in the rearward end of the napkin either by cutting away portions of the napkin along the sides at the rearward end or forming the napkin initially with less absorbent material in the rearward portion. While generally such procedures have been satisfactory from the standpoint of comfort, considerable sacrifice is made with respect to providing an effective absorbing medium for the overall performance of the sanitary napkin.

Another approach, in addition to forming a sanitary napkin with a reduced size in the rearward portion, has been to provide a sanitary napkin having a preformed arcuate configuration in the longitudinal direction thereby obviating the tensional forces required to be applied through the attachment tabs and suspensory devices for bending an initially flat sanitary napkin into the desired arcuate configuration conforming to the anatomy existent in the perineal region of the female. For sanitary napkins to obtain such a preformed, arcuate configuration, it has been necessary to build in stabilizing forces within the napkin itself. This has usually been provided by having shrinkable elements strategically placed within the sanitary napkin or by having thermoplastic or thermosetting moldable elements strategically distributed through the napkin which, upon activation by heat or chemical treatment, are effective to draw the sanitary napkin into the desired arcuate configuration or which, by placement into suitable molding forms, are effective to mold the sanitary napkin into its desired configuration. Such approaches, however, have had a two-fold disadvantage. Firstly, the necessary steps of shrinking or of molding have reduced the rate at which such sanitary napkins can be formed in a sanitary napkin production line thereby substantially increasing the cost thereof beyond that which is economically feasible for a consumer product. Secondly, the inclusion of such shrinkable or moldable elements in such sanitary napkins have substantially reduced the effective absorption characteristics thereof. The sanitary napkin of the present invention eliminates, among others, all of the above problems and difficulties and provides a sanitary napkin which not only fits comfortably but also fulfills its absorbing function to a greatly improved extent.

Summary of the Invention

According to the present invention a sanitary napkin is provided having a highly effective absorbent core portion. The napkin is so constructed that it is maintained comfortably in direct and intimate contact with the body of the wearer so that its inherent absorbing capacity is effectively utilized. The sanitary napkin comprises, generally, a core of absorbent fibrous material and a fluid pervious cover overlying at least the surface of the core adapted to be worn against the body. The cover and the core are compression bonded together on the top surface of said core along relatively narrow embossed lines spaced inwardly from the lateral and end edges of the napkin. The embossed lines form dense channels extending longitudinally near the lateral edges of the napkin and dense channels extending transversely near each of the end edges of the napkin. The longitudinally extending and the transversely extending channels are connected together at their respective ends and are impressed to a depth of at least one-half the thickness of the napkin. A deeply embossed wedge-shaped channel is impressed from the bottom of the napkin at the rearward end, the apex of the wedge-shaped channel being positioned medially and directed towards the forward end of the napkin. The wedge-shaped channel extends forwardly in the napkin a distance less than half the length of the napkin and forms a correspondingly shaped and positioned ridge on the top of the napkin so that the napkin is narrowed at the rearward end thereof without reducing the amount of absorbent material existent in the rearward end of the napkin.

A significant feature of the sanitary napkin of the present invention is the manner in which the cover and the absorbent core are compression bonded together within the aforementioned embossing channels to impart to the preformed napkin form stability and integrity thereby minimizing undesirable distortions of the napkin when worn and assuring desirable conformability of the napkin, thus making the napkin more comfortable to the wearer.

Further in accordance with the present invention, the napkin can be preformed in an arcuate configuration in the longitudinal direction, i.e., the ends curving upwardly to conform to the exterior female pubic area. The longitudinally extending channels embossed into the napkin impart thereto structural stability and integrity thereby maintaining the napkin in its desired arcuate configuration.

Further in accordance with the present invention, the sanitary napkin can be made with or without attachment tabs. When it is desired to provide a tabless napkin, the cover material existent at the ends of the napkin is folded upon itself and is compression bonded to the napkin within the transversely extending channels embossed near the ends of the napkin.

These and other attendant features and advantages of the present invention will become even more apparent from the detailed description of the preferred embodiments presented below when read in conjunction with the appended drawings wherein:

FIG. 1 is a perspective view of one embodiment of the sanitary napkin shown upside down to present the bottom view;

FIG. 2 is a perspective view of the napkin of FIG. 1 as seen from the top;

FIG. 3 is a plan view of the sanitary napkin viewed from the bottom and which shows in phantom lives the shape of the sanitary napkin prior to being formed into a tapered configuration in accordance with the present invention;

FIG. 4 is a cross-sectional view taken along line 4–4 of FIG. 2;

FIG. 5 is a cross-sectional view taken along line 5–5 of FIG. 2;

FIG. 6 is a cross-sectional view taken along line 6–6 of FIG. 2;

FIG. 7 is a perspective view of another embodiment of the sanitary napkin showing shortened tabs of cover material at the ends of the core which will ultimately be folded to provide the sanitary napkin in tabless form;

FIG. 8 is a perspective view of the completed napkin embodiment of FIG. 7;

FIG. 9 is a fragmentary, cross-sectional view of the napkins of FIGS. 7 and 8 showing the folding over and securing of the cover at the end of the napkin;

FIG. 10 is a perspective view of a flat embodiment of the sanitary napkin shown in tabless form but with attachment tabs also shown in phantom lines.

FIG. 11 is a diagrammatic view of apparatus for making an arcuately shaped sanitary napkin in accordance with the present invention;

FIG. 12 is another diagrammatic view of the apparatus of FIG. 11 but showing a sanitary napkin being formed into its arcuate configuration at a different stage of its manufacture;

FIG. 13 is a diagrammatic view of apparatus for making a flat sanitary napkin in accordance with the present invention;

FIG. 14 is a sectional view of the apparatus of FIG. 13 showing the formation of the tapered rearward end of the sanitary napkin of the present invention;

FIG. 15 is a transverse, cross-sectional view of the apparatus and napkin taken along line 15–15 of FIG. 14;

FIG. 16 is a perspective view of the anvil plate of the apparatus depicted in FIGS. 11 through 15 showing the wedge-shaped forming member used to form the tapered rearward portion of the sanitary napkin of the present invention;

FIG. 17 is a fragmentary, perspective view of the embossing roll of the apparatus of FIGS. 11 through 15 showing the embossing die for impressing into the top of the napkin the longitudinally extending and transversely extending channels;

FIG. 18 is a fragmentary, frontal view taken approximately along line 18–18 of FIG. 12;

FIG. 19 is a diagrammatic view of the apparatus of FIG. 11, but showing a sanitary napkin being formed into an arcuate configuration without attachment tabs; and

FIG. 20 is a diagrammatic view of the apparatus of FIG. 13, but showing a flat sanitary napkin being formed without attachment tabs.

Referring now, more particularly, to FIGS. 1 through 6, a sanitary napkin 10 is shown having an absorbent core 12 and a fluid pervious cover 14 around the core and which extends beyond the ends thereof to form attachment tabs 16. The absorbent core 12 is made of any of the conventional materials known for their excellent absorbent properties such as absorbent cotton, woodpulp fibers, paper wadding and other natural or synthetic fibrous materials or combinations thereof. In addition, the absorbent core can be provided with a protective fluid barrier 18 of repellent paper, polyethylene or other similar materials overlying the bottom surface of the core and extending upwardly over the sides thereof.

The fluid pervious cover 14 similarly can be made of any of the conventional materials commonly used for this purpose such as gauze, nonwoven fabrics, papers, and the like. However, the unique construction and structural relationships of the napkin of the present invention permit use of very open cover materials 14*a* overlying the top surface of the napkin. Such open cover materials are ideal for fluid penetration into the absorbent core but they are possessed of too little tensile strength to function properly as a supporting structure. Support is then provided by using cover materials 14*b* of increased tensile strengths but less open area, to cover the bottom and side surfaces of the napkin. Suitable, by way of example, is a top surface cover 14*a* of a loose knit fabric such as tricot, or a low-count woven gauze, or a low-count nonwoven scrim material, and the like. The remainder 14*b* of the cover 14 can then be made of a much tighter fabric such as nonwoven Masslin, paper, high-count woven gauze, high-count scrim material and other such materials having greater tensile strength than the top surface cover material 14*a*, and lesser free area.

In the embodiment depicted in FIGS. 1 through 6, a sanitary napkin 10 is formed into an arcuate and tapered configuration and is structurally stabilized in that form by a pair of longitudinally extending channels 20 embossed into the napkin from the top surface. By embossing the channels 20 into the napkin to a depth greater than one-half the thickness of the napkin, the portion of the core 12 underlying the channels 20 obtains a density sufficient to hold the napkin 10 in its desired configuration. Further adding to the structural stability in the sanitary napkin 10 is the cover 14 intimately bonded by compression to the core 12 all along the base of the deeply embossed channels 20. This occurs as a result of forming the deeply embossed channels 20 into the napkin after the absorbent core has first been covered with the desired cover material 14.

Structural stability of the sanitary in the transverse direction is also provided by forming deeply embossed channels 22 adjacent each end of the sanitary napkin 10, which channels 22 interconnect the ends of the longitudinally embossed channels 20.

Referring now, more particularly, to FIGS. 1, 3 and 6, the napkin 10, in accordance with the present invention, is formed and maintained into a tapered configuration by impressing a deeply embossed, wedge-shaped channel 25 upwardly from the bottom of the napkin at the rearward end thereof. As the napkin is formed, in a manner described more fully hereafter, the wedge-shaped channel 25 raises the central portion of the napkin at its rearward end causing the sides of the napkin to draw inwardly, thus tapering the napkin 10 at its rearward end. To assure the proper tapered configuration, the wedge-shaped embossment 25 extends forwardly from the rearward end of the napkin a distance less than half the length of the napkin pad 12. In this manner the forward portion of the sanitary napkin provides the major absorbing capacity in the area of the napkin which is placed directly against the vaginal opening when the napkin is worn. The rearward portion of the napkin, because it is narrowed in the manner described, fits comfortably in the area between the buttocks and because there has been no reduction in material existent in the rearward portion of the absorbent core, there is no reduction in its absorbent capabilities. The wedge-shaped channel 25 is also impressed upwardly to a depth of at least one-half the thickness of the napkin but the upper surface of the napkin existent above the wedge-shaped channel is permitted to yield thereby forming a correspondingly shaped and positioned ridge 26 on the top surface of the napkin. Because the wedge-shaped channel 25 is thus deeply embossed into the rearward portion of the napkin through the cover material 14, the absorbent core 12 is densified and the cover material 14 is bonded thereto by compression, thus imparting the required form stability and integrity holding the napkin 10 in its desired tapered configuration.

Referring now, more particularly, to FIGS. 7 through 9, a tabless sanitary napkin 10 can be made conveniently and neatly in accordance with the present invention. Prior to forming the deeply embossed channels 20 and 22 in the top of the sanitary napkin 10 and the wedge-shaped channel 25 in the bottom at the rearward portion of the napkin, the cover material 14 existent beyond the ends of the napkin is cut off shorter than if a sanitary napkin with attachment tabs 16 were to be provided. The shorter tabs 27 are then folded back over the top surface of the sanitary napkin 10 and the ends thereof reach to a point where the transverse channels 22 ultimately

will be embossed near the end edges of the sanitary napkin. When the transverse channels **22** are embossed into the sanitary napkin **10** in a manner to be more fully described hereafter, the ends of the shortened cover tabs **27** are compression bonded to the cover **14** and the absorbent core **12** at the base of the deeply embossed transverse channels **22**. (FIGS. **8** and **9**). The embossing operation is effective to apply a stretching force on the shortened tabs **27** that are folded back over the top surface of the sanitary napkin so as to pull it tautly over the ends thereof and provide a neat and tightly secured overwrap at the ends of the absorbent core **12**.

Similarly, in FIG. **10**, another embodiment of the sanitary napkin of the present invention is shown in which the napkin **10**, rather than obtaining an arcuate configuration, is formed flat. Attachment tabs **16** formed from the cover material **14** surrounding the absorbent core **12** can be provided extending beyond the ends of the absorbent core **12** in the same manner as the embodiment described with respect to FIGS. **1** through **6**. (Phantom lines FIG. **10**). Also, a tabless napkin **10** can be formed in a flat configuration in the identical manner as described with respect to the arcuate napkin depicted in FIGS. **7** through **9**, the only difference between the arcuate napkin and the flat napkin being in the methods of manufacture which are described more fully below.

Referring now to FIGS. **11** and **12**, suitable apparatus for forming the curved or arcuate sanitary napkin **10** of the present invention are diagrammatically shown. Individual pads **12** of fibrous material of the type described hereinabove are first placed in longitudinal spaced relation upon a continuous length of cover material **14***b* which is of sufficient width to cover the bottom surface of the core **12** and wrap upwardly over the sides and onto the top surface of the core **12** so as to reach the position where the longitudinally embossed channels **20** will ultimately be formed in the top surface of the napkin **10**. The top surface cover **14***a* is fed continuously to the tops of the longitudinally spaced pads **12** and is of sufficient width to cover the space defined between and overlap the edges of the wrapped cover **14***b* that are spaced apart on the top surface of the cores **12**. The overlapped edges of the two cover materials **14***a* and **14***b* are then secured together by applying a line of suitable adhesive on each of the longitudinally extending overlaps to form a complete cover **14** surrounding the absorbent cores **12**.

The above-described assembly of cores **12** and cover material **14** is then fed onto a timed and moving continuous belt **28** of interconnected anvil plates **30** which, at their interconnection, are adapted to hinge to permit the continuous belt **28** to bend around the driving pulleys **32**. Spaced above the continuous anvil belt **28** and driven at a circumferential speed equal to the linear speed of the continuous belt **28** is an embossing die roll **34** having one or more embossing dies **35** secured to the peripheral surface thereof. The embossing die **35** secured to the embossing roll **34** is spaced about the periphery thereof so as to coincide with the longitudinally spaced absorbent cores **12** positioned within the continuous length of cover material **14** being carried by the continuous anvil belt **28**. The continuous anvil belt **28** includes, at spaced intervals, anvil plates **30** having provided thereon at the rearward end of each an upwardly projecting wedge-shaped member **36** (FIG. **16**) which are so spaced and timed to coincide with the rearward portion of the longitudinally spaced absorbent cores **12** being carried thereby in the continuous length of cover material **14**. The space between the die-carrying embossing roll **34** and the continuous anvil belt **28** defines a nip into which the individual pads **12** of absorbent material being carried by the continuous length of cover material **14** is fed and the die **35** carried by the embossing roll **34** is timed to form the deeply embossed longitudinal **20** and transverse **22** channels into the top of the napkin **10** to a depth greater than one-half the thickness of the napkin. Similarly, the wedge-shaped embossing member **36** carried by spaced anvils **30** of the continuous anvil belt **28** are timed to impress the wedge-shaped channel **25** at the rearward end of the sanitary napkin **10** as the individual pads **12** of core material carried by the continuous length of cover material **14** pass through the nip defined between the die-carrying roll **34** and the continuous anvil belt **28**. The continuous anvil belt **28** is supported from below by a fixed anvil table member **40** so that the die **35** carried by the embossing roll **34** is impressed against the anvil **30** without the latter yielding under the pressure of the die-embossing roll **34**.

As shown particularly in FIGS. **11**, **12** and **18**, means are provided for carrying away the embossed and formed sanitary napkins **10** from the embossing station. Located at a level above the nip defined between the embossing roll and the continuously moving anvil belt is a doctor blade **42** for removing the napkins **10** from the embossing roll. By being so located, the sanitary napkins **10** assume an arcuate configuration, i.e., the ends thereof are bent upwardly into the curved form described with respect to the embodiments shown in FIGS. **1** through **9**. It is found that by permitting the embossed napkins **10** to continue an arcuate travel beyond the point of the nip causes them to be formed into the desired arcuate configuration. However, since the embossing die **35** impresses very deep channels **20** and **22** into the top surface of the sanitary napkin **10**, the napkin tends to adhere to the embossing roll **34** so that the doctor blade **42** is provided to peel away the sanitary napkin **10** from the embossing die. The arcuate napkins **10** thus formed are then conveyed by pull rollers (not shown) across a rotary cutoff station (not shown) where the napkin cover material **14** existent between the individual pads **12** is cut off to suitable length to form the attachment tabs **16**. From the cutoff station the napkins **10** are then stacked and packaged into cartons for commercial distribution.

If it is desired to form the sanitary napkin **10** of the present invention in flat form, as shown in FIG. **10**, the napkins are removed from the embossing roll **34** in a line tangential to the embossing roll at the nip defined between the die-carrying embossing roll and the continuously moving anvil belt **28**. (FIGS. **13** and **14**). To this end, idler rolls **44** are provided above the continuously moving anvil belt **28** at a distance equal to the approximate thickness of the sanitary napkins **10** being formed and are so positioned such that the individual absorbent cores **12** being carried by the continuous length of cover material **14** are caused to continue moving forwardly in a line substantially tangential to the circumference of the embossing roll **34** at a point defined by the nip between the embossing roll **34** and the continuously moving anvil belt **28**. As with the embodiment described above with respect to the sanitary napkin made in an arcuate configuration, the sanitary napkin made in flat form is carried forwardly beyond the embossing station to a cutoff mechanism which cuts off the continuous lengths of cover material **14** existent between the longitudinally spaced individual pads **12** of absorbent core material into the desired lengths to form attachment tabs **16**. From the cutoff station, the individual pads are then carried forwardly for stacking and packaging.

To form the sanitary napkins of the present invention in tabless form as depicted in FIG. **8** and FIG. **10**, the cutoff station for cutting the continuous length of cover material **14** existent between the longitudinally spaced cores **12** is positioned in front of the embossing station described above. The rotary cutoff mechanism cuts off the cover material **14** existent between the longitudinally spaced pads **12** at the desired length for folding back the cover material upon the top surface of the sanitary napkin so as to reach a position where the transverse channels **22** will ultimately be formed in the pads. The cutoff tabs **27** are then folded back over the top surface of the napkins by any suitable folding mechanisms (not shown). The individual pads are next fed individually onto the continuously moving anvil belt **28** in longitudinally spaced relation following the folding back of the cover material **14** onto the top surface of the sanitary napkin **10**. The individual pads are then fed in the same manner in timed relationship into the nip defined between the die-carrying

embossing roll 34 and the continuously moving anvil belt 28 as described above with respect to the sanitary napkin being formed with attachment tabs 16 and are similarly formed into tapered napkins having a curved configuration (FIG. 19) or a flat configuration (FIG. 20).

The die 35 presented on the peripheral surface of the embossing roll 34 (FIG. 17) consists of a pair of circumferentially extending rails 48 which are of a length slightly less than the length of the absorbent core 14 of the sanitary napkin 10 being made and are of a height greater than one-half the thickness of the napkin. The circumferentially extending rails 48 are spaced from each other transversely on the peripheral surface of the embossing roll 34 a distance slightly less than the width of the napkin 10 and are directed toward each other in going from their forward ends to their rearward ends. The space between the rails 48 thus assuming a tapered configuration causes the napkin 10 being formed to be stabilized in the tapered configuration which is formed by the wedge-shaped embossing member 36 on the anvil plates 30.

Interconnecting the forward ends of the peripherally extending rails 48 is a transversely extending rail 50 which is substantially the same height as the height of the peripherally extending rails 48. At the portion of the die 35 which is intended to coincide with the rearward end of the napkin pad 12 as it passes through the nip defined between the embossing roll 34 and continuously moving anvil belt 28 is a wedge-shaped, dished-out portion 52 in the embossing roll 34. The dished-out portion 52 is traversed by a transversely extending embossing rail 54 that interconnects the rearward ends of the peripherally extending embossing rails 48 and follows the contour of the dished-out portion 52 at a height substantially equal to the height of the peripherally extending embossing rails 48. The dished-out portion 52 on the embossing roll is adapted to coincide with the wedge-shaped embossing member 36 existent on the longitudinally spaced anvils 30 that carry the sanitary napkins through the nip defined between the embossing roll 34 and the continuously moving anvil belt 28 with the rearward portion of the napkin 10 overlying the wedge-shaped embossing member 36 on the anvil plate 30. As shown particularly in FIG. 14, the wedge-shaped embossing member 36 on the anvil plate 30 forces the rearward end of the sanitary napkin pad 10 upwardly into the mating recess 52 in the embossing roll 34 as the sanitary napkin 10 is passed through the nip defined therebetween, thus drawing in the sides of the napkin 10 at the rearward portion to form a tapered napkin. This relationship at the rearward end of the sanitary napkin 10 as it passes through the nip existent between the embossing roll 34 and the continuously moving anvil belt 28 carrying the wedge-shaped embossing member 36 is further shown in the cross-sectional view of FIG. 15.

All the embodiments of the sanitary napkin herein described and claimed possess excellent absorption characteristics while at the same time are extremely comfortable to the wearer. The deeply embossed channels provide the structural stability and relationships required for a form fit and further, because the absorbent core is very dense in the area underlying the channels, fluid transfer is prevented into the marginal portions existent at the edges of the napkin thereby preventing so called "side-spread " failure. Additionally, napkins formed in the manner described have the central portion existent within the boundaries of the top embossed channels raised upwardly, which, when worn, is pressed upwardly to an even greater extent into intimate contact with the perineal area when forces exerted by the legs of the wearer press the side edges of the napkin inwardly.

It is thus seen that a napkin made in accordance with the present invention can be made economically, while still providing a napkin which is very effective as an absorbent medium and is very comfortable to the wearer. 20

I claim:

1. A sanitary napkin comprising a core of absorbent fibrous material and a fluid pervious cover overlying at least the top surface of said core, said cover and said core being compression bonded together on the top of said core along relatively narrow embossed lines spaced inwardly from the lateral and end edges of said napkin, said embossed lines forming a dense channel extending longitudinally near each of the lateral edges of said napkin and a dense channel extending transversely near each of the end edges of said napkin, said longitudinally extending channels and transversely extending channels being connected together at their respective ends and being impressed to a depth of at least one-half the thickness of said napkin, and a deeply embossed wedge-shaped channel impressed from the bottom of said napkin at the rearward end thereof, the apex of said wedge-shaped channel being positioned medially and directed towards the forward end of said napkin and extending a distance less than half of the length of said napkin, said wedge-shaped channel forming a correspondingly shaped and positioned ridge on the top of said napkin whereby the napkin is narrowed at the rearward end thereof.

2. The sanitary napkin of claim 1 wherein said napkin is provided with attachment tabs extending beyond the ends thereof.

3. The sanitary napkin of claim 1 wherein said napkin is arcuate longitudinally with its ends being curved upwardly, the arcuate configuration of said napkin being stabilized and maintained by said longitudinally extending dense channels impressed from the top of said napkin.

4. The sanitary napkin of claim 1 wherein said napkin is tabless, the cover being folded back upon itself at the forward and rearward ends thereof and being compression bonded to said napkin within said transversely extending channels impressed from the top of said napkin.

5. The sanitary napkin of claim 1 wherein said cover includes a longitudinally extending fluid-pervious central panel overlying the top surface of said napkin in the area bonded by said longitudinally and transversely extending dense channels, said central panel being of greater free area than the rest of said cover which extends and overlaps said core on the bottom surface thereof.

6. The sanitary napkin of claim 5 wherein said central panel of said cover is a loose knit fabric and the rest of said cover is a nonwoven fabric.